

Mnemonic Devices for the Biological Psychology Chapter

By Michael A. Britt, Ph.D.

[Psych Test Prep](#) and [The Psych Files](#)

Hi. This is Michael Britt and I developed the mnemonic images contained in this document. I truly hope they will help you remember the various parts of the brain and as a result will help you do better on your test.

How did you select these terms? I scoured many Introductory Psychology textbooks, and drew upon my own experience as a teacher of psychology to pick the terms I felt certain you would be tested on for the bio psych chapter. Then I spent hundreds of hours working on mnemonic devices to help you not just remember the various bold terms from this chapter, but also remember what role each part of the brain/body performs.

How do mnemonic devices work? I devoted quite a few episodes on my [The Psych Files](#) podcast to the topic of mnemonics so you might want to listen to those episodes to learn more about mnemonics. Essentially however, mnemonics work by helping you associate unfamiliar words with either familiar ones you already know or with outrageous images that are easy to remember. That's what I've tried to do here – provide you with memorable images to help you recall the meaning of these terms.

I hope you find these images memorable, but remember that the absolute best images are the ones which draw from your own personal experiences. For example, to help you remember that the temporal lobe helps you process sounds, I used pictures of a drummer, a metronome (tempo) and musical notes. This should work, but if you have a cousin, a sister, a friend, or you're a fan of a famous drummer, **use that person in your image**. That person is more familiar to you and will more easily come to mind. The problem, of course, is that many times we're too busy to make up our own mnemonics and that's where I hope these images can help out.

Can you guarantee me a good grade on my test? I can't of course. Your grade will depend upon more than just remembering mnemonics. Find out as much as you can from your teacher about what is expected for the test. Preparing for a multiple-choice test is different than preparing for an essay. Find out what you'll be expected to do.

NOTE: some of these brain parts have many functions - such as the hypothalamus for example. However, if I tried to make a mnemonic device for every possible role a brain part plays in your thinking, there would be hundreds of mnemonics and that just wouldn't be helpful at all. I had to do some simplification. However, I made these images after examining many psychology textbooks and I'm confident these images will help you do well on your test.

Any other advice? Yes. In addition to mnemonic devices there are a few other keys to learning new material:

1. **Spread out your learning.** In psychology we call this “**distributed practice**”. This is one of the most firmly established ways of successfully learning something that will stay with you for a long time. Many students cram information into their heads just before an exam – and yes, I did this too from time to time when I was in college. I won’t kid you – when I became a teacher I knew many of the best students crammed before a test. However, it doesn’t work for everyone. In addition I’ll say this – you’re paying a lot for your education. What will you remember if all you do is cram? Not much. Spread out your study and what you learn will stay with you longer. Study a little bit from each of your classes every day.
2. **Get some sleep.** Studies have also shown that new information has a chance to solidify in your brain when you allow it to rest. This is another reason why distributed practice works – introduce a little bit of information, sleep on it, then review and introduce some more.

Once again, thanks for purchasing these mnemonic devices. I hope they help you do well in your classes.

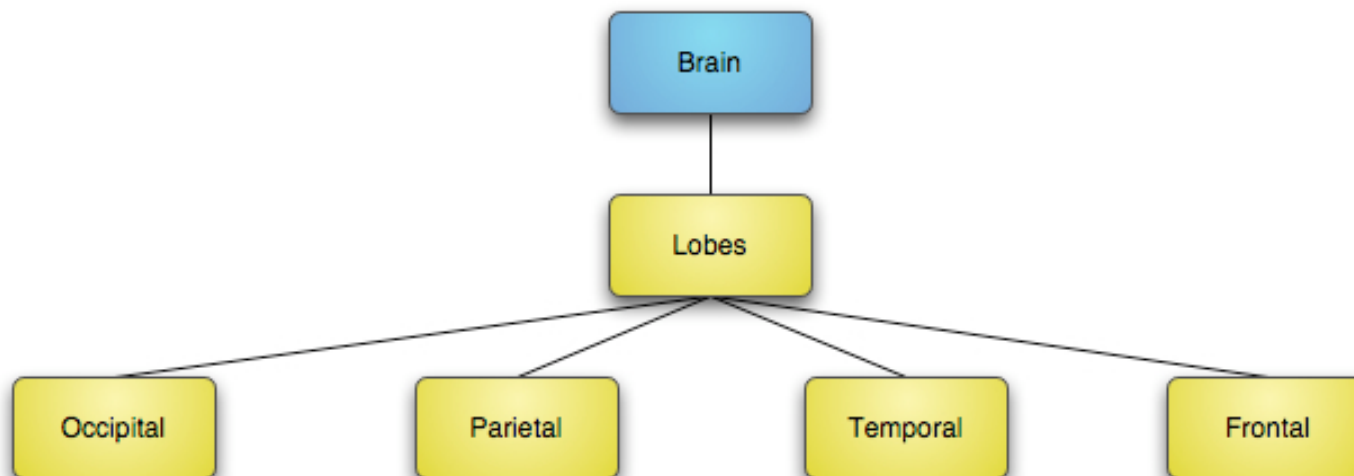
Michael Britt

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Lobes of the Brain

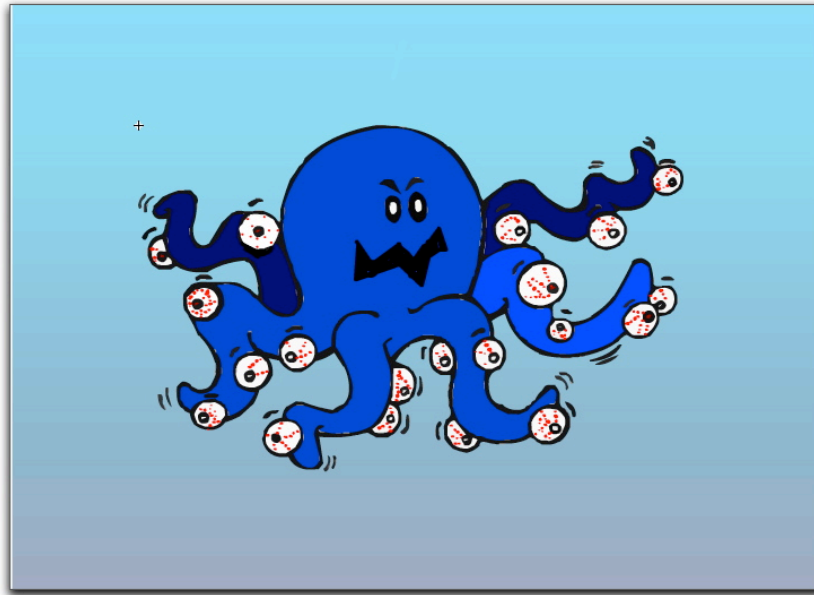


Acronym to help remember the 4 lobes of the brain:

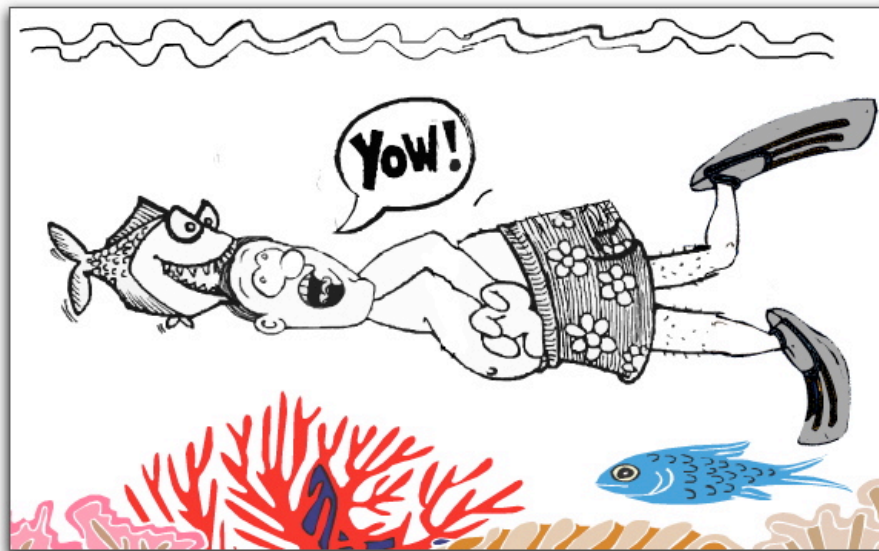
FTOP: **F**reud **T**ore_{his} **P**ants **O**ff



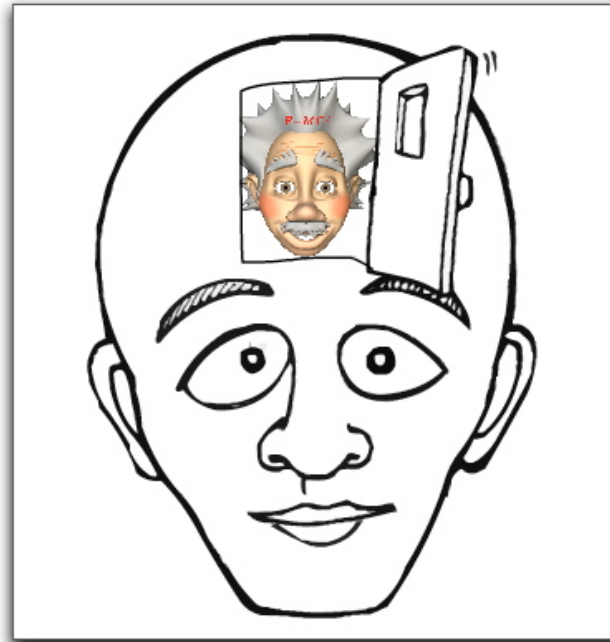
Occipital Lobe: Use the “Occ” part of the word Occipital and imagine an octopus. Since the occipital lobe processes visual information, picture eyeballs instead of suckers on the tentacles. Always good to make your image scary if you can.



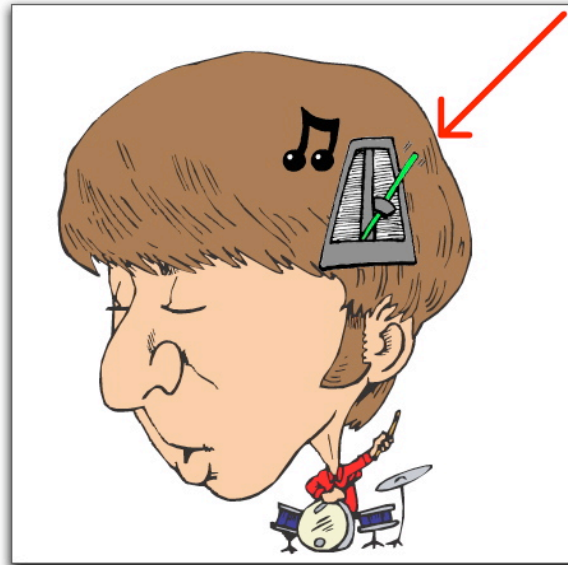
Parietal Lobe: processes sensory information. Use a “piranha” fish as your mnemonic. The piranha bites you on the top of the head (where the parietal lobe is located). That’s a sensation the parietal lobe would process.



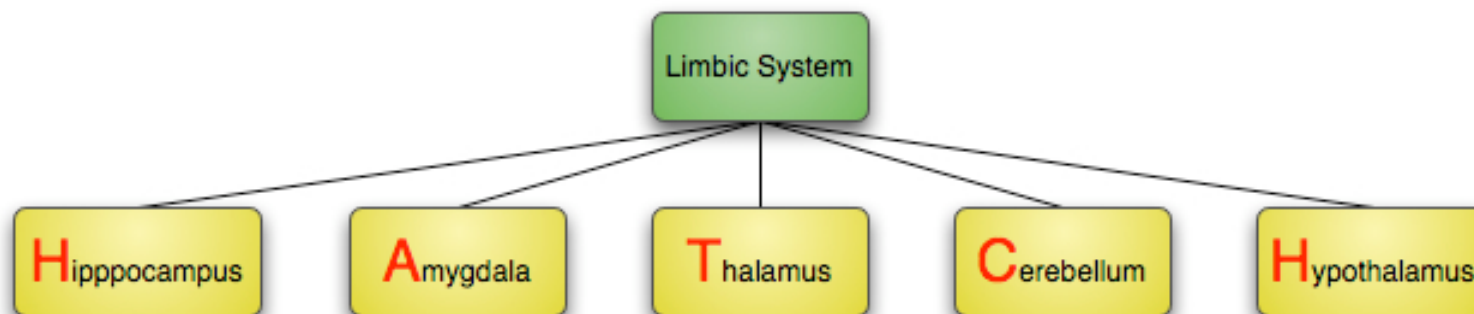
Frontal Lobe: the frontal lobe is where complex thinking occurs. Use “front door” as your mnemonic. Put the front door on your forehead and put Einstein (complex thinker) behind the door.



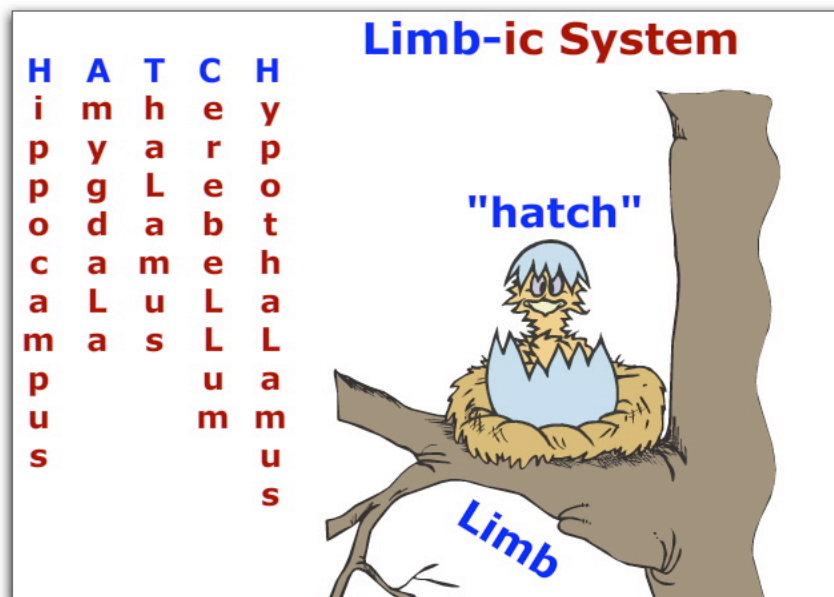
Temporal Lobe: the temporal lobe is where auditory processing occurs. Use “tempo” as your mnemonic and picture a metronome above your ear (where the temporal lobe is located)



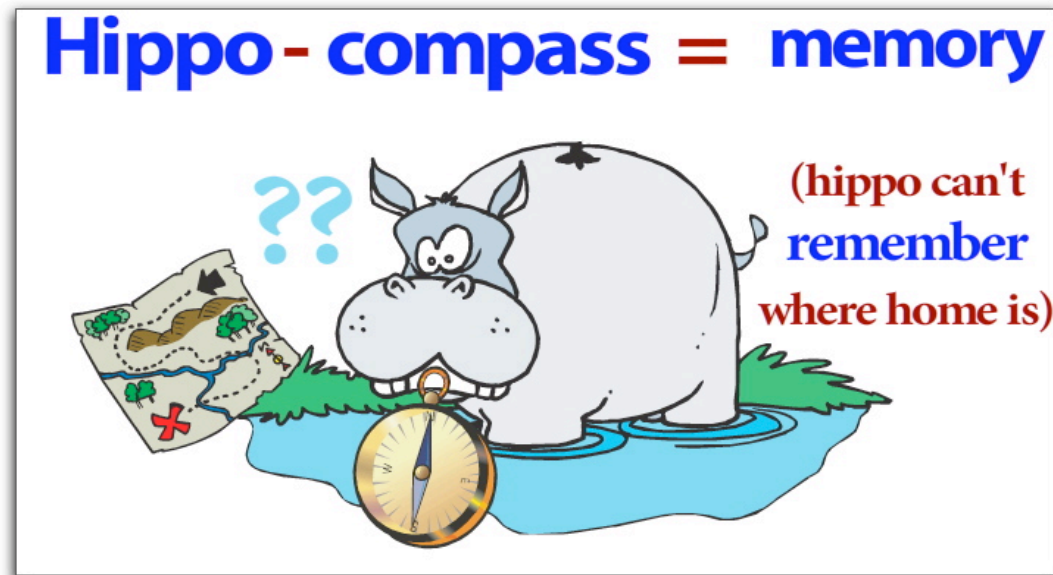
The Brain's Limbic System



Acronym: “HATCH”



Hippocampus:
involved in
memory. Use
“hippo-compass”:
picture a hippo
who is lost and
can’t remember
how to get home,
so he’s using a
compass.

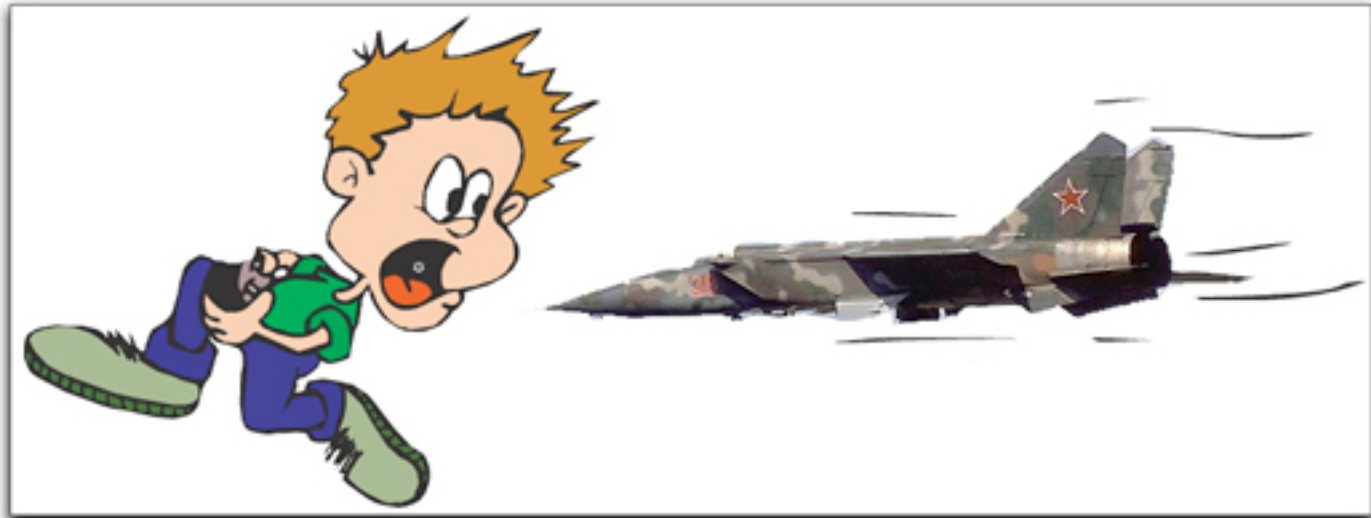


Amygdala:
involved in your
fear responses.
Picture a scary
wig (rhymes with
“myg”) with
dollars in the hair
(similar to
“dala”).

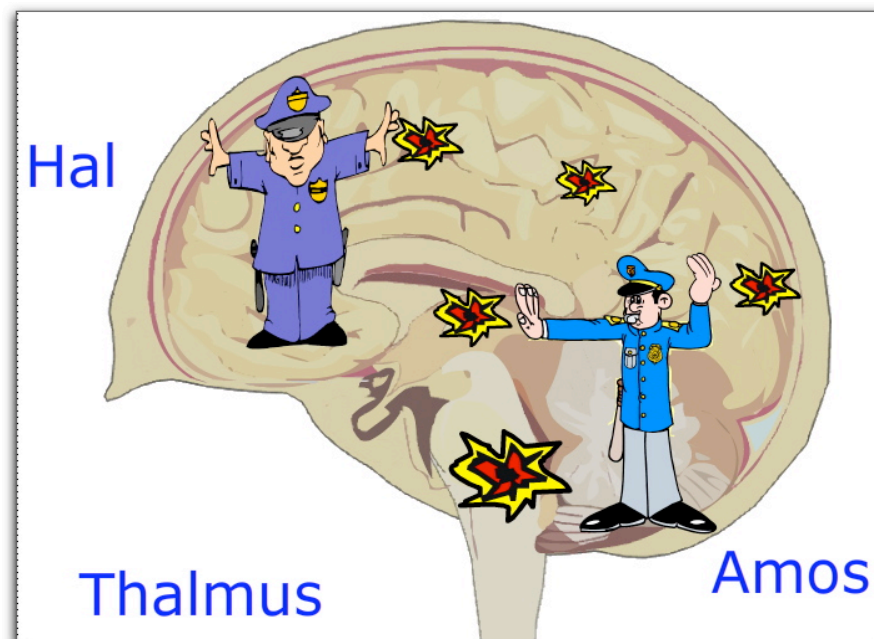
Amygdala **"myg" rhymes with "wig"**
(since the amygdala regulates fear, make it a scary wig
with "dallas" in its hair)



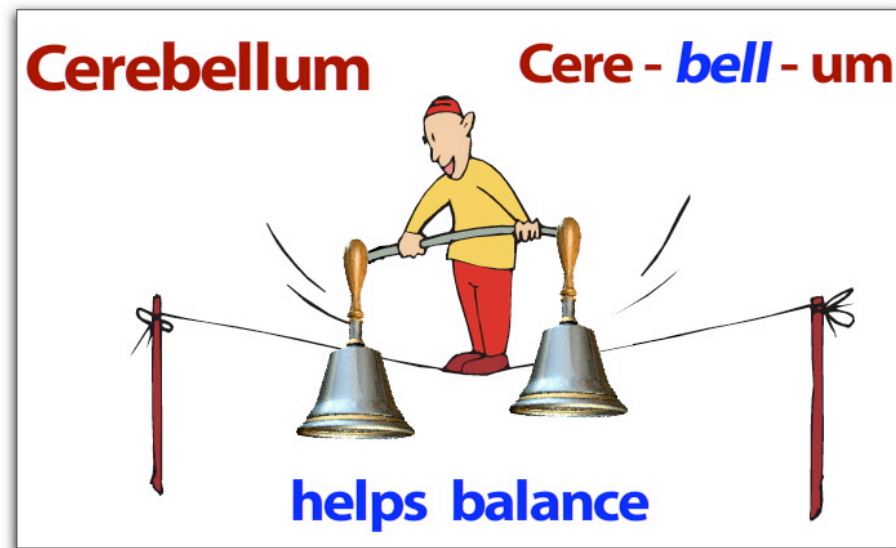
Amygdala: if you're familiar with attack planes, a "MIG" is a scary attack fighter jet.



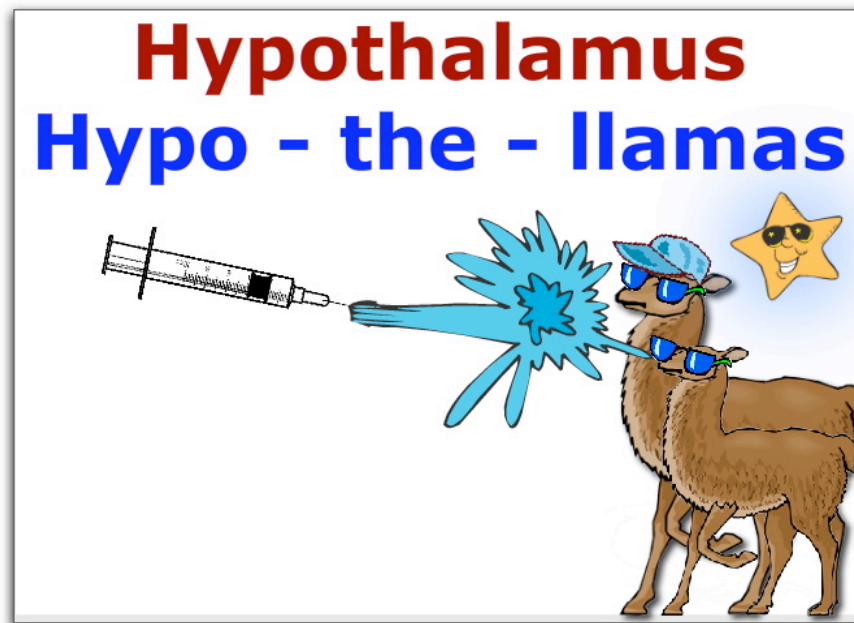
Thalamus: the thalamus relays information from the body to different areas of the brain for processing. Picture Hal and Amos as traffic cops.



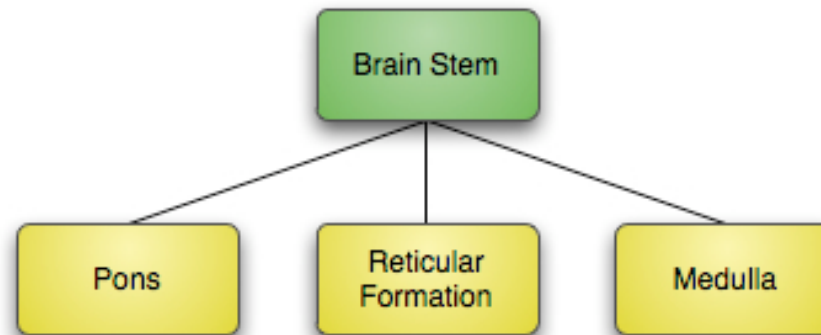
Cerebellum: involved in helping you maintain balance. Picture a tight walker using bells for balance. Or picture your favorite athlete trying to balance a bell on his/her head.



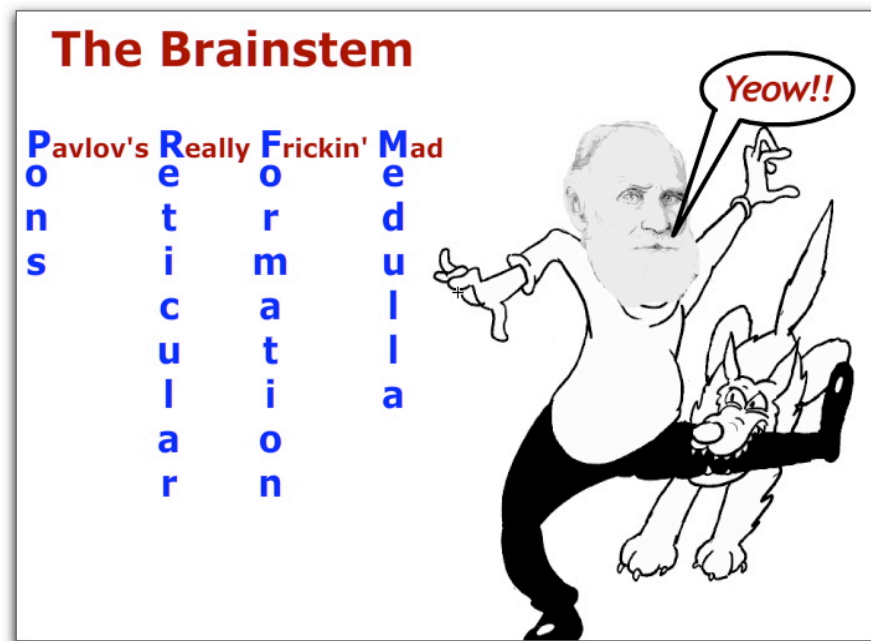
Hypothalamus: the hypothalamus regulates many of the body's metabolic processes, thirst, hunger and body temperature. Use "hypo-the-llamas" as your mnemonic. Picture a hypo spraying two thirsty llamas with water to quench their thirst and cool them down.



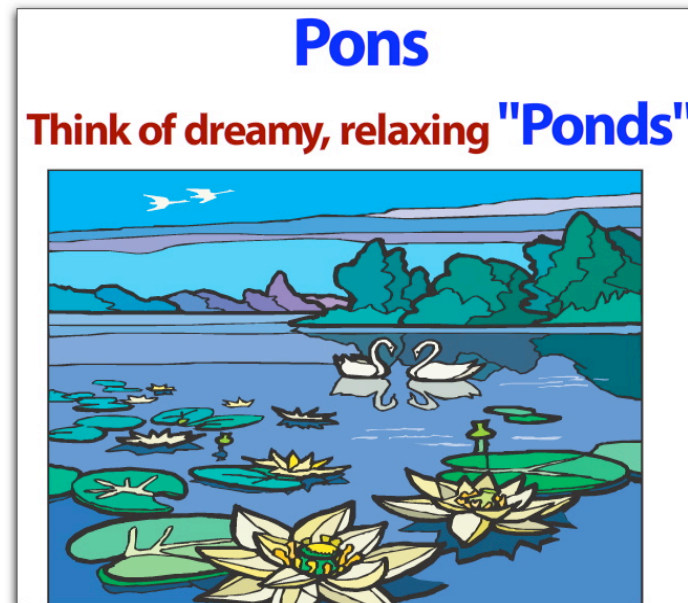
The Brain Stem



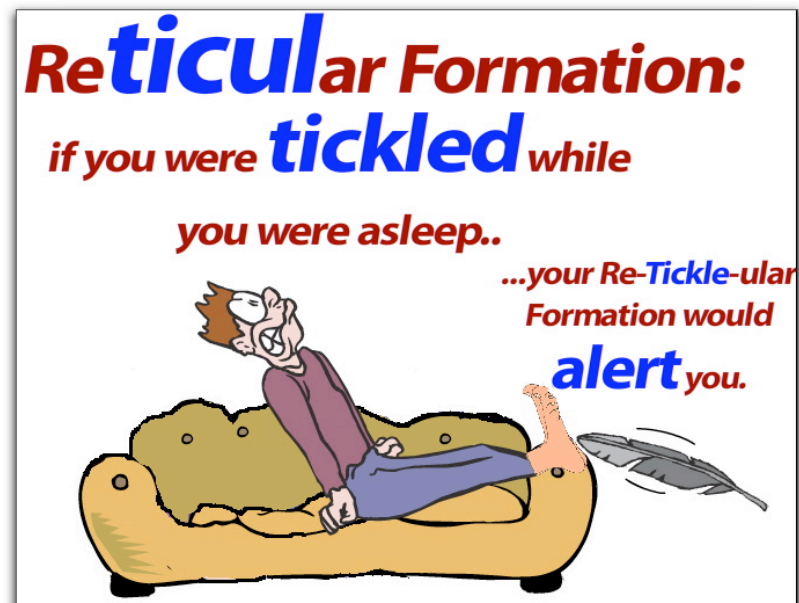
Acronym: **P**avlov's **R**eally **F**rickin' **M**ad!



Pons: the pons is the part of the brain that regulates waking and relaxing. Put a “d” in pons and you have “ponds”. Ponds are relaxing to look. Your pons is activated when you look at a calm, relaxing pond.



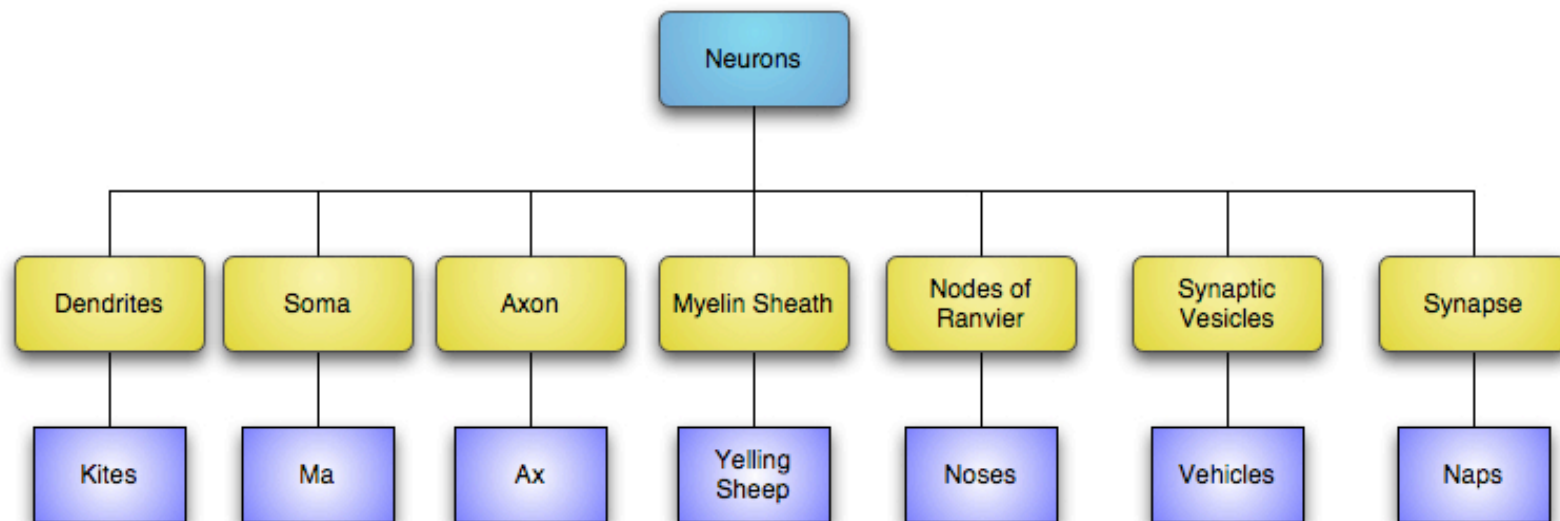
Reticular Formation: the reticular formation is involved in motivation and alertness. Use “tickle” as your mnemonic. If you (or your roommate) were asleep and someone tickled you, your reticular formation would wake you up.



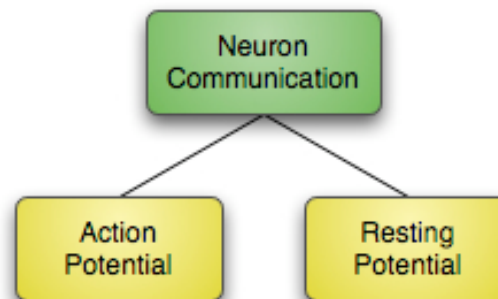
Medulla: the medulla regulates the autonomic activity of the heart and lungs. Use medals as your mnemonic and stick the medals in a bloody heart and lungs. Or picture an Olympic athlete wearing gold medals around her neck and covering her heart and lungs.



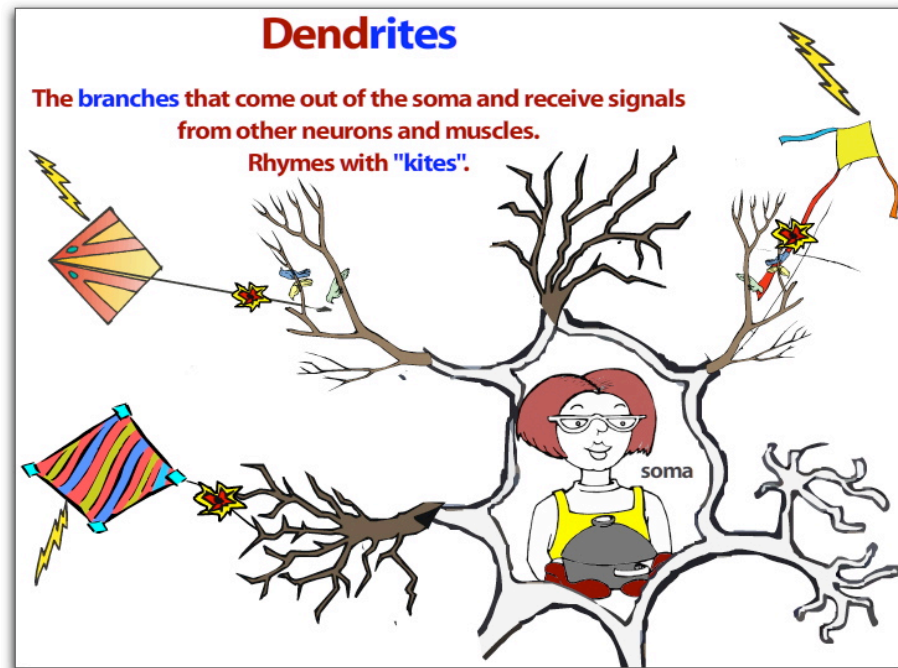
The Neuron



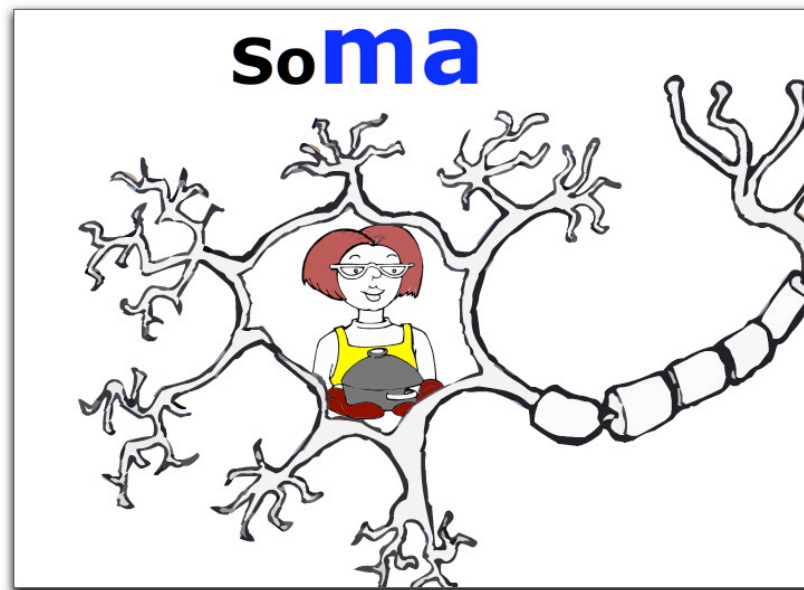
Acronym: **D**amn! **S**kinner **A**te **M**ice?? **N**ot **V**ery **S**mart.



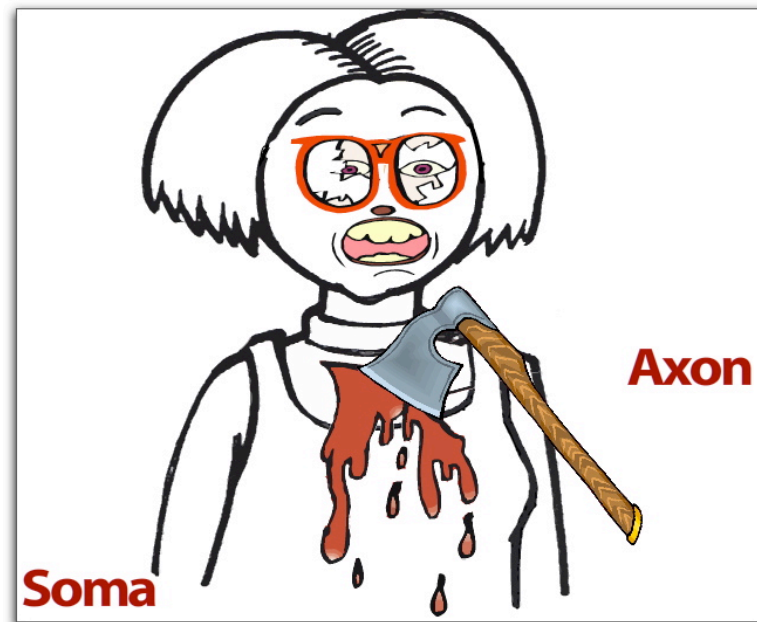
Dendrites: signals from muscles and other neurons enter the neuron through branches called dendrites. “Rites” rhymes with kites. Kites often fly into tree branches, and lightening can strike kites, so picture lightening striking kites which are attached to the branches of the soma.



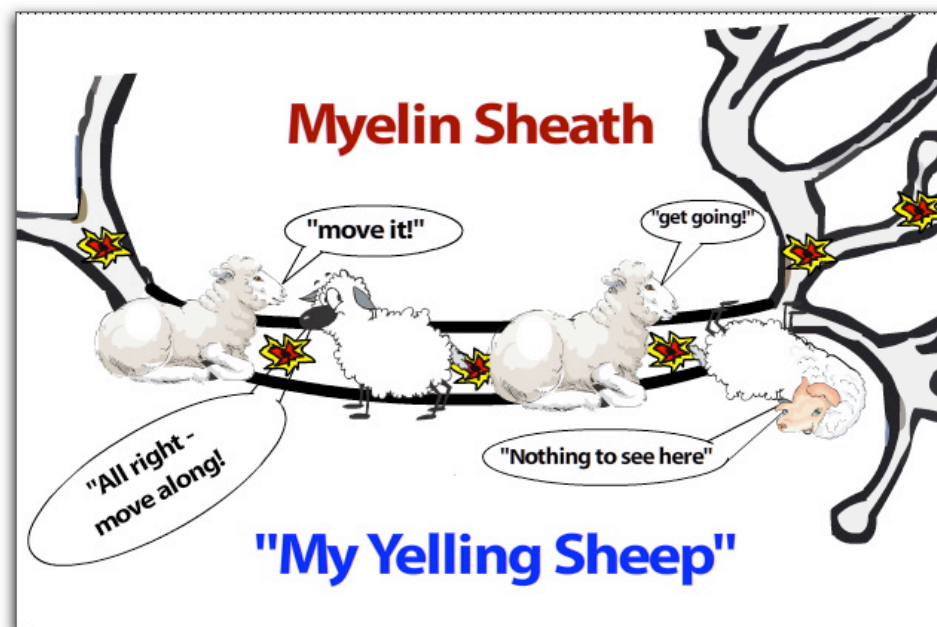
Soma: The soma is the cell body of the neuron. Use “ma” or “someone’s ma” as your mnemonic. Picture your mother inside the cell body.



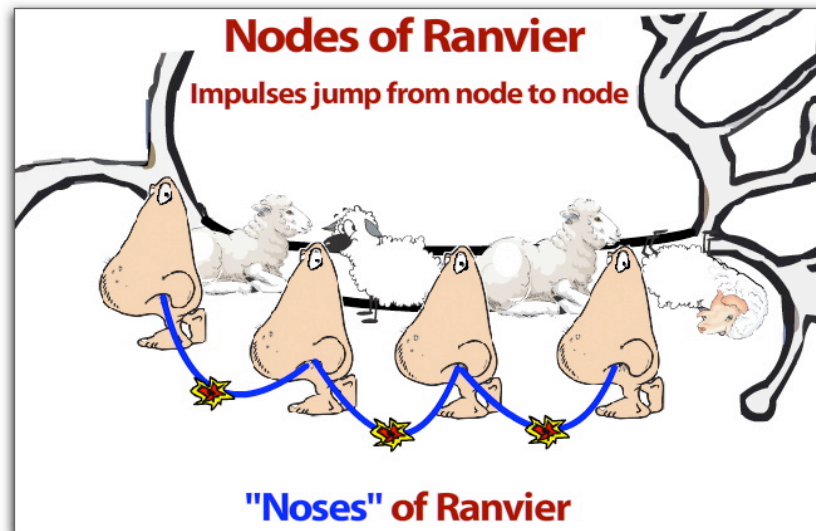
Axon: the axon extends out from the soma. Use “ax” and picture an ax that has been stuck into “someone’s ma”.



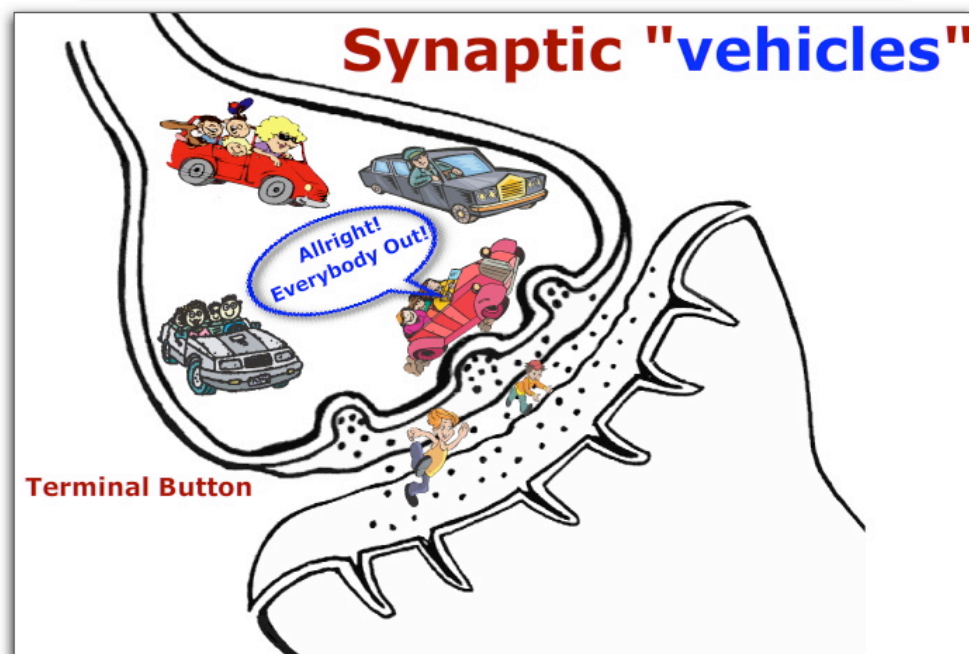
Myelin Sheath: the myelin sheath protects the axon and speeds the signal down the axon. Picture sheep sitting on the axon, keeping it warm and also yelling at the signal to move it along the axon: “my yelling sheep”



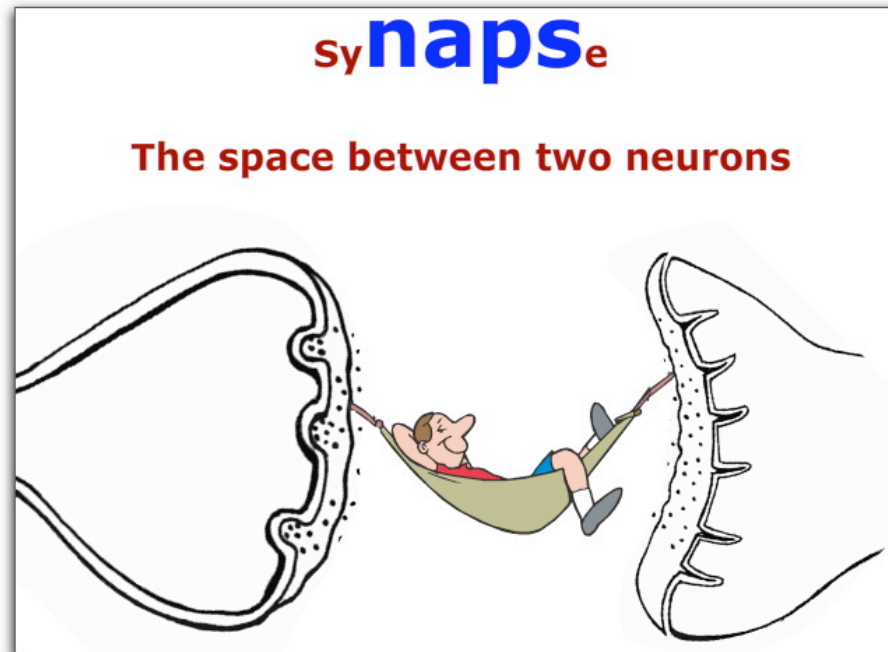
Nodes of Ranvier: the Nodes of Ranvier are the spaces between the myelin sheath. As the signal travels down the axon it actually jumps from one node to another. Go with “noses” and picture noses between the “sheep” the signal jumps from one nostril to another.



Synaptic Vesicles: the synaptic vesicles are found at the end of the axon (which is sometimes called the **terminal button**). The synaptic vesicles contain the neurotransmitters. You can go with the obvious (i.e., testicles”), but I’ll go with “vehicles” and the people in the vehicles are the neurotransmitters.



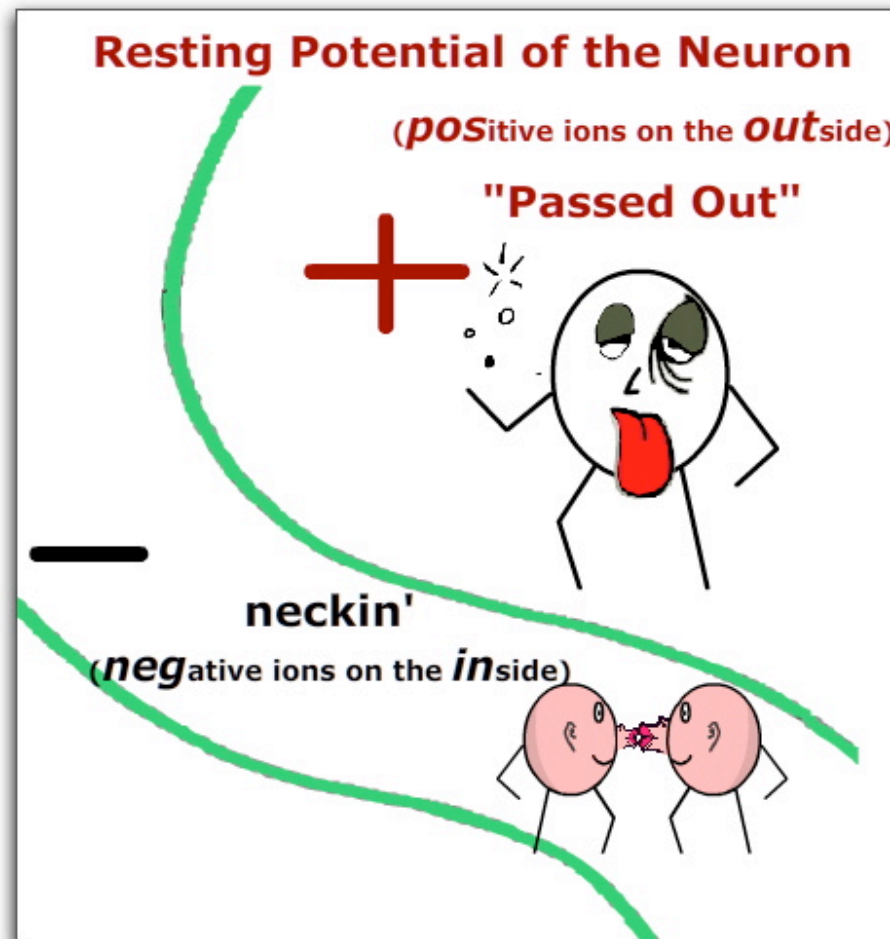
Synapse: the synapse is found at the end of the axon. It is the space between one neuron and another or between one neuron and a muscle. Use the “naps” part of synapse and picture someone taking a nap between two neurons.



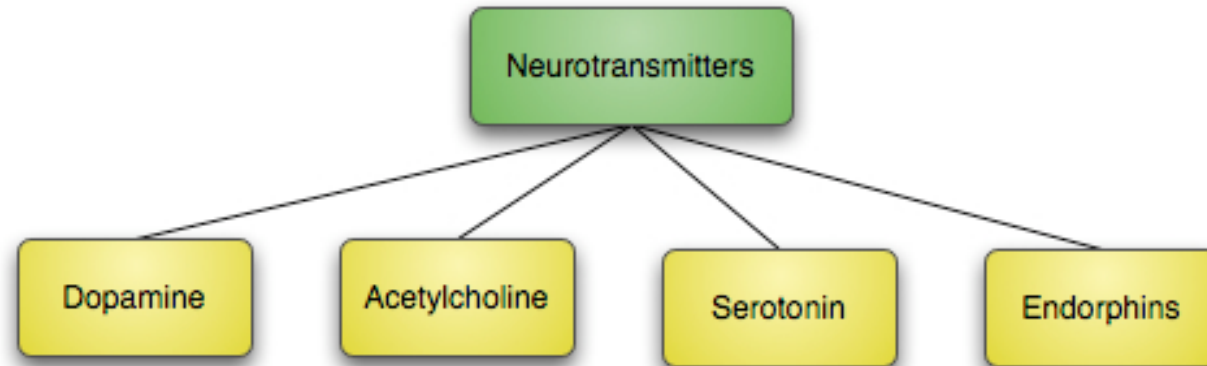
Neuron Communication

Resting and Action Potential: when the neuron is in its resting state the majority of the ions inside the neuron are negatively charged and the majority of the ions outside the neuron are positively charged. Use “neg-in” (neckin’) and “pos-out” (passed out) to help you remember the resting state.

If you are asked about the ions in the action state, think about the resting state and then put the ions in the opposite places.



Neurotransmitters



Acronym: SAD (the neurotransmitters most all textbooks cover):

Serotonin **A**cetylcholine **D**opamine

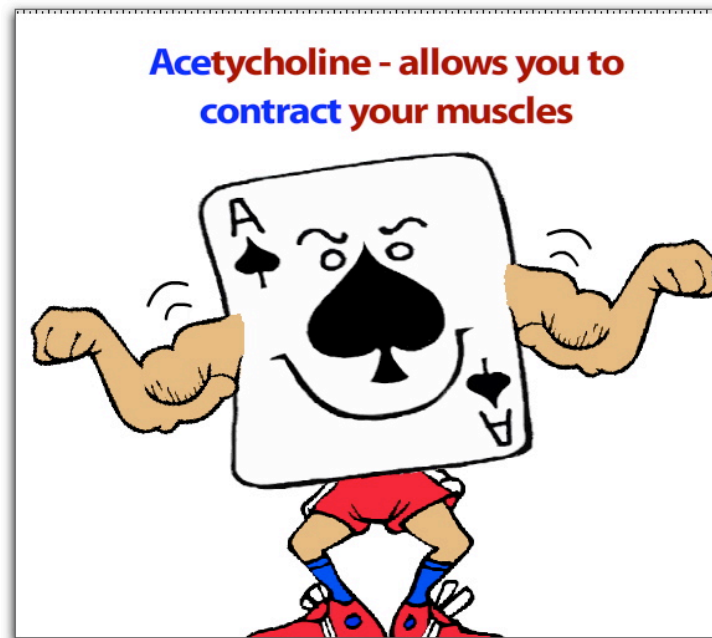
Or:

DASE: Dopamine **A**cetylcholine **S**erotonin **E**ndorphins

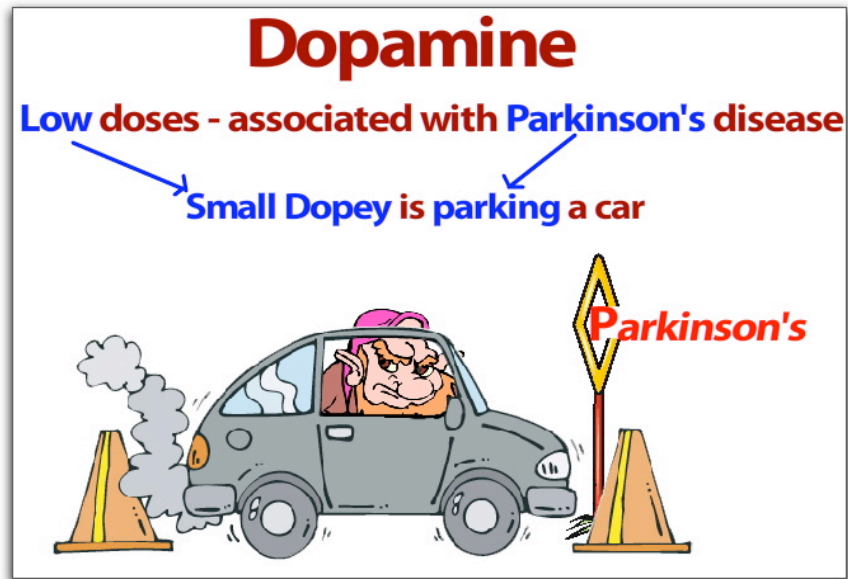
Serotonin: low levels of serotonin in the brain are associated with depression. In this case we have “Sir Rotten” who is in a rotten mood (depressed)



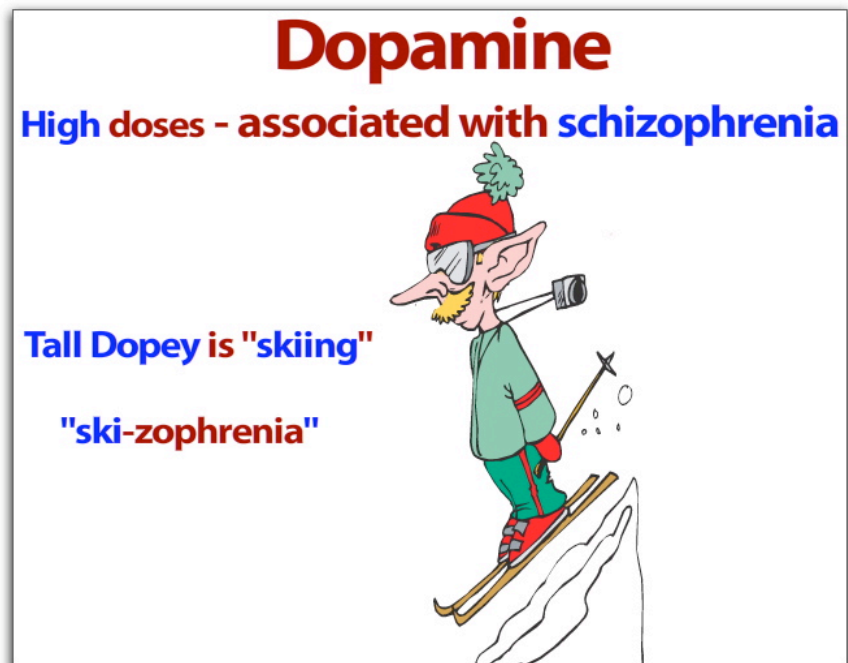
Acetylcholine: involved in helping you contract your muscles. Use an ACE flexing his muscles as your mnemonic.



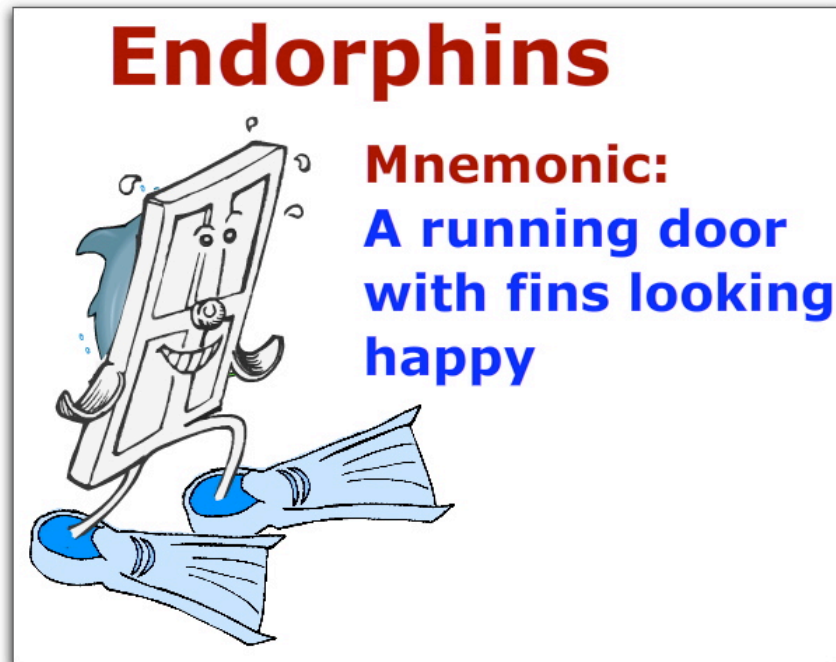
Dopamine: low levels are associated with **Parkinson's** disease. Use the dwarf "dopey" as your mnemonic.



Dopamine: high levels are associated with **schizophrenia**. Use a tall dwarf as your mnemonic.

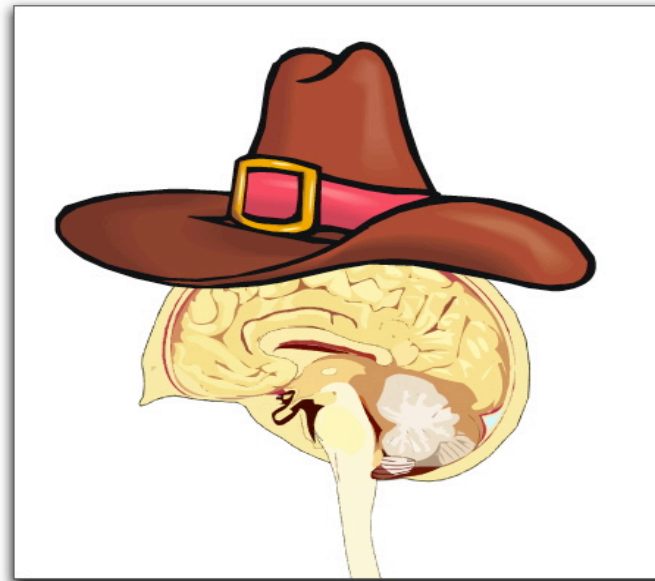


Endorphins:
involved in blocking
pain sensations and
in producing
“runner’s high”.
That’s why the
running door with
fins looks happy.

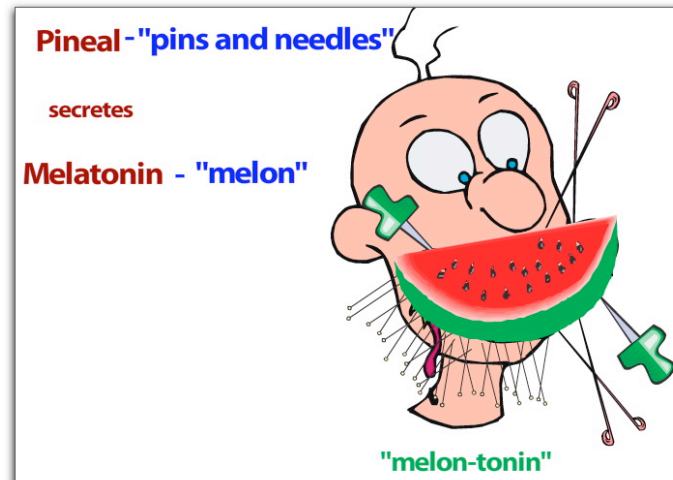


The Brain and its Hemispheres

Cortex: imagine a Texas hat on your head which is covering the outermost part of your brain – the cor"tex".



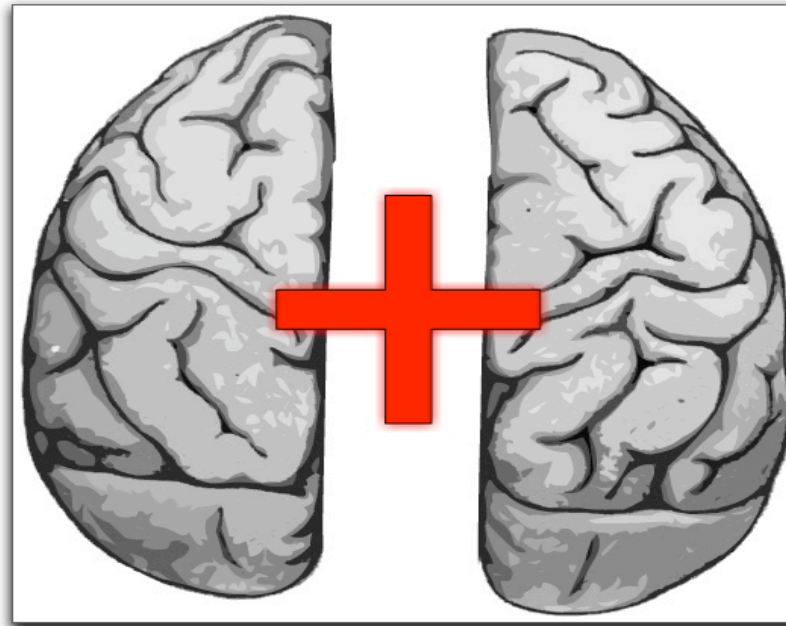
Pineal Gland: the pineal gland secretes melatonin. Use “pins and needles in a melon” as the mnemonic.



Corpus

Callosum: the corpus callosum connects the two hemispheres.

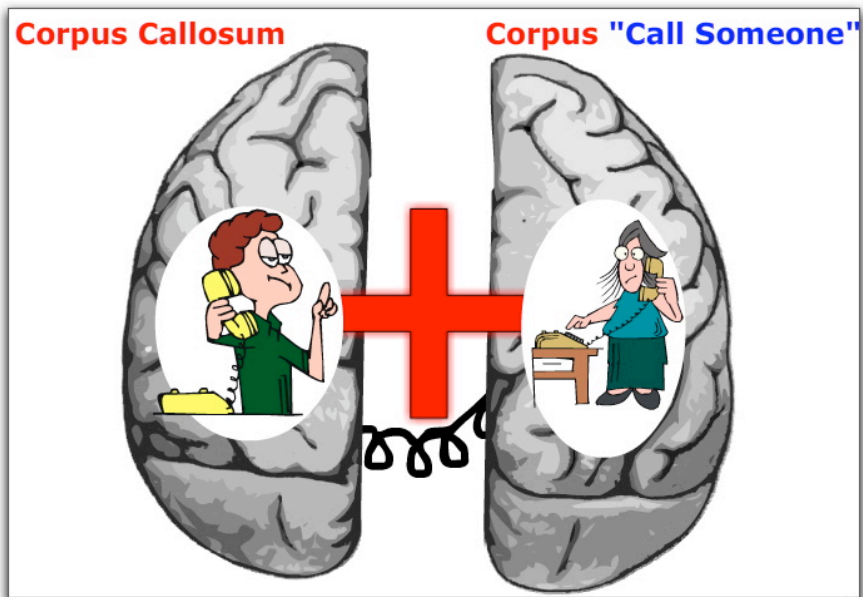
Thus, the
corPLUS
CalloSUM.



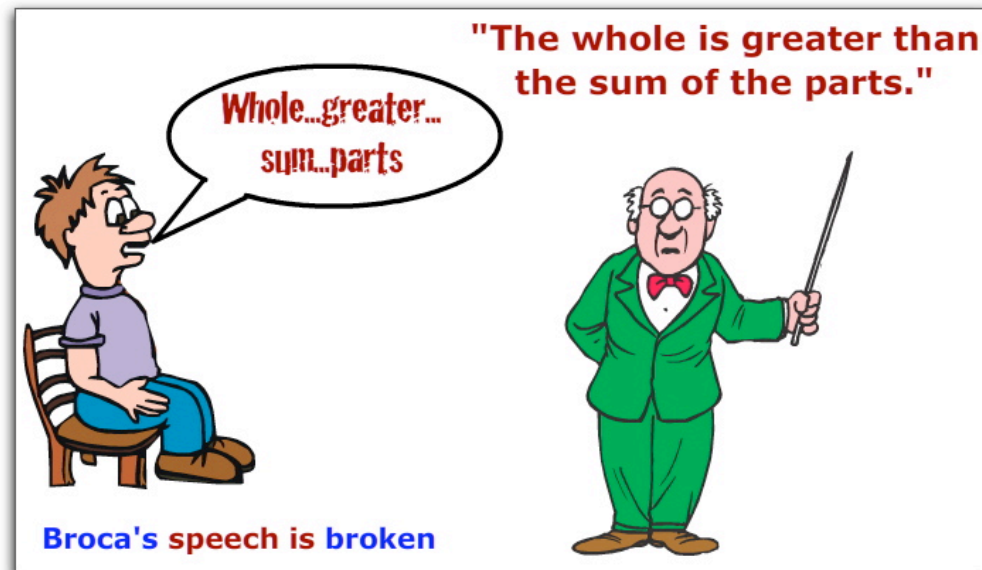
Corpus

Callosum: it is through the corpus callosum that the two hemispheres communicate.

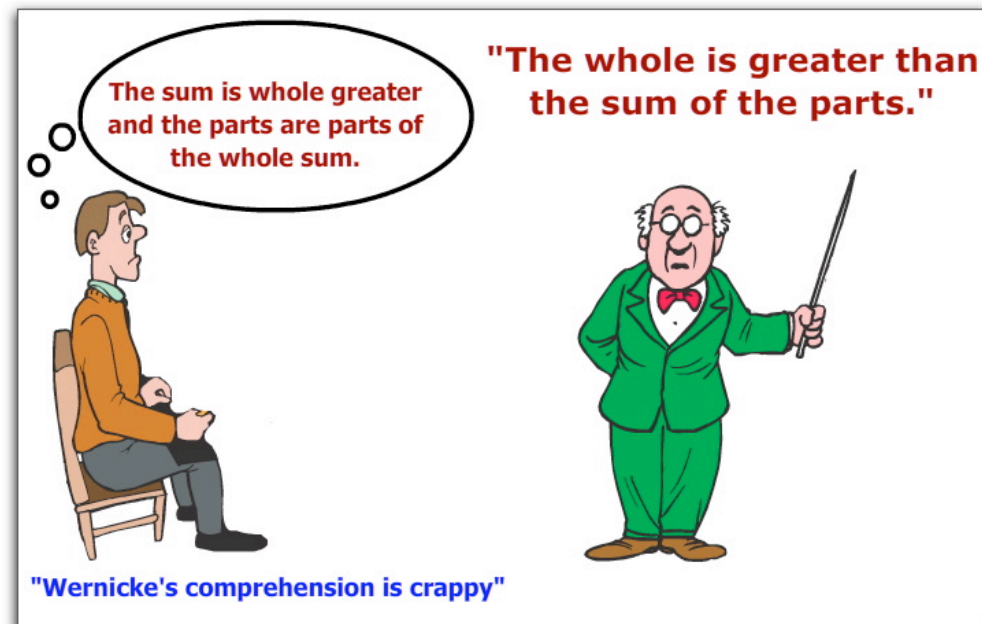
Thus, you could also picture
“corpus CALL
SOMEONE”.



Broca's area: Broca's area is the area of the brain responsible for producing speech. If it is damaged, you can understand what someone says, but your speech is disjointed. In other words, "Broca's speech is broken" or "Broca's banter is broken".



Wernicke's area: Wernicke's area is responsible for the comprehension of speech. If you have an aphasia in this area of the brain you are unable to understand and respond to what people are saying to you. In other words, "Wernicke's comprehension is crappy".



Flash Cards

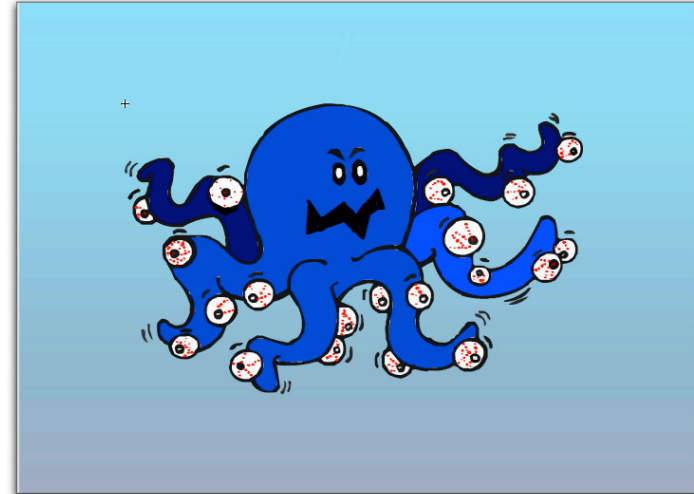
(cut along dotted lines)



Q: What are the four lobes of the brain?

Mnemonic: "Freud Tore Off his Pants"

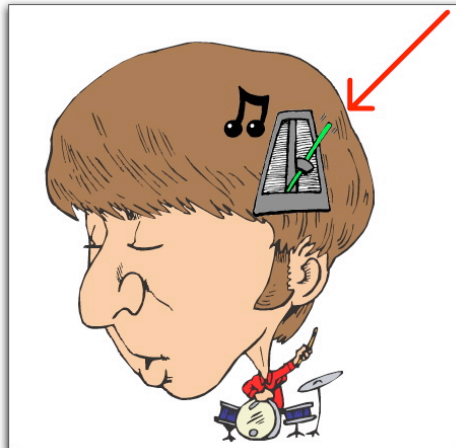
A: Frontal, Temporal, Occipital and Parietal



Q: Which brain lobe processes visual information?

Mnemonic: Octopus with eyes instead of suckers

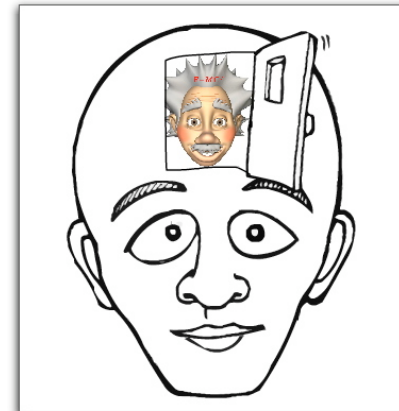
A: the Occipital lobe



Q: Which brain lobe processes auditory information?

Mnemonic: a metronome above the ear

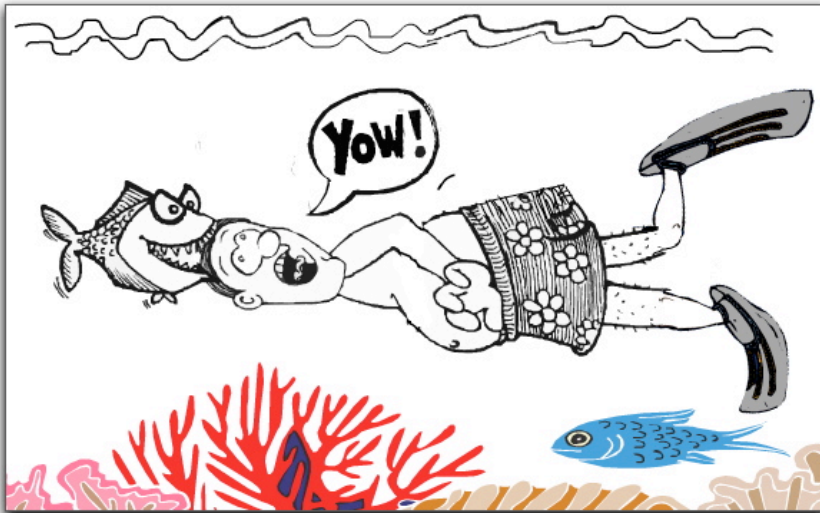
A: the Temporal lobe



Q: Which brain lobe is the seat of complex thinking?

Mnemonic: a front door on your forehead with Einstein behind the door

A: the Frontal lobe



Q: Which brain lobe processes sensory information?

Mnemonic: a piranha biting a swimmer's head

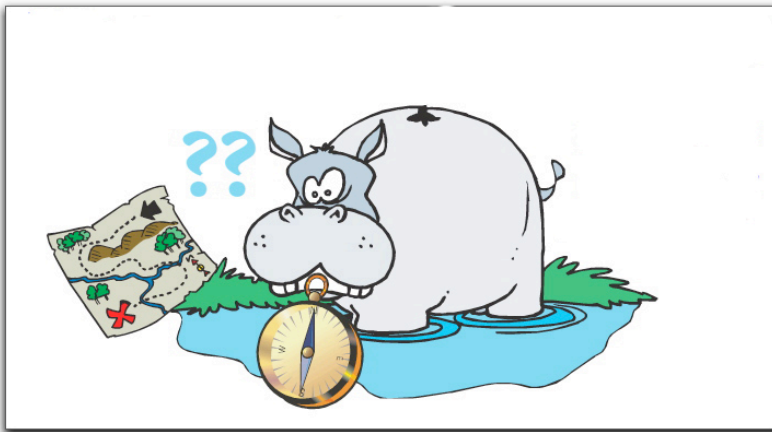
A: the Parietal lobe



Q: What are the four parts of the limbic system?

Mnemonic: a bird sitting on a limb hatching from its egg

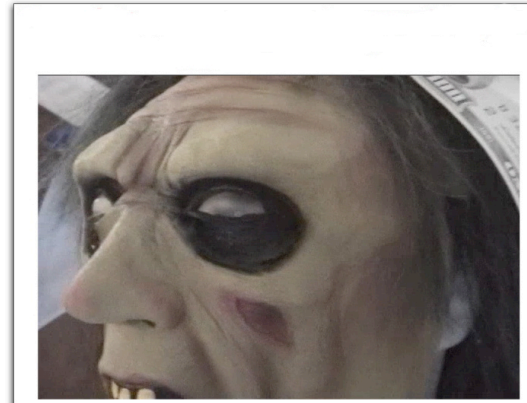
A: Hippocampus, Amygdala, Thalamus, Cerebellum,
Hypothalamus



Q: What part of the brain is involved in memory?

Mnemonic: a hippo with a compass

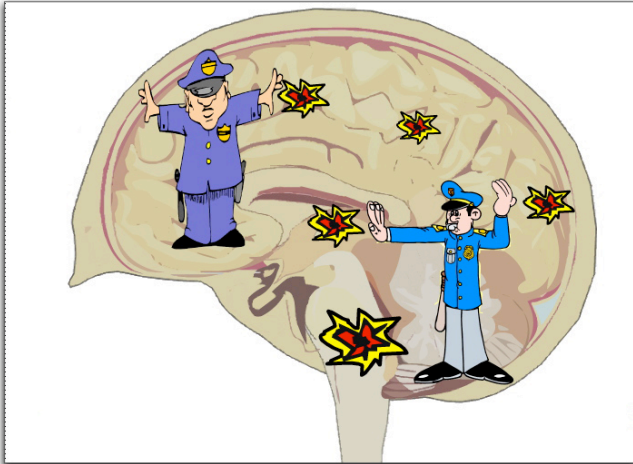
A: the hippocampus



Q: What part of the brain is involved with your fear response?

Mnemonic: a scary wig with dollars in it

A: the amygdala



Q: What part of the brain takes signals from the body and relays them to the appropriate part of the brain?

Mnemonic: The traffic cops Hal and Amos

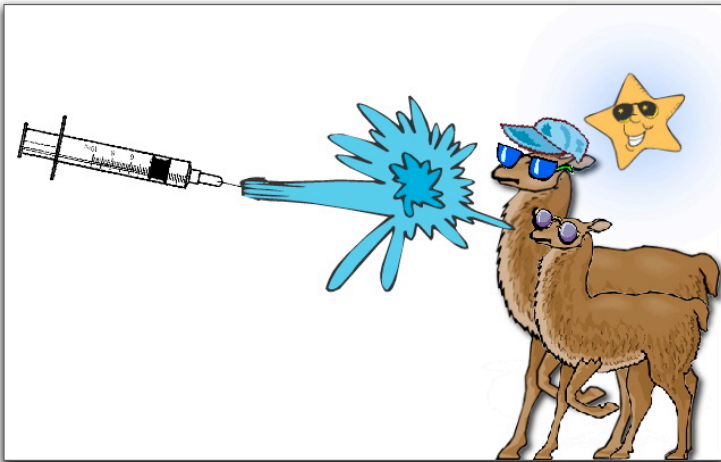
A: the thalamus



Q: What part of the brain helps you with your balance?

Mnemonic: an athlete with bells on

A: the cerebellum



Q: What part of the brain is regulate thirst, hunger, your metabolic system, motivation and the sex drive?

Mnemonic: two llamas getting sprayed with a hypo

A: the hypothalamus



Q: What are the 3 parts of the brainstem?

Mnemonic: Pavlov is Really Frickin' Mad

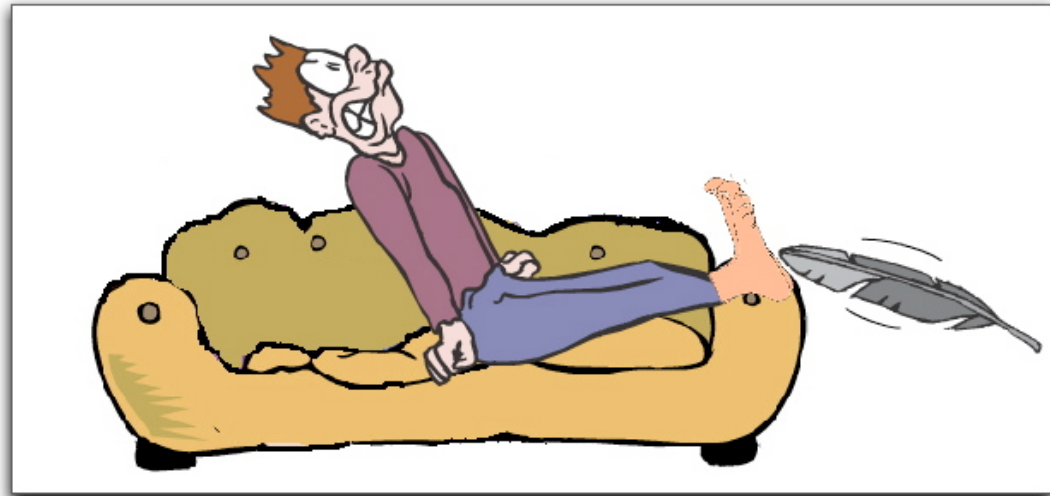
A: the Pons, the Reticular Formation, and the Medulla



Q: What part of the brain helps you sleep and awaken?

Mnemonic: a calm, dreamy pond

A: the pons



Q: What part of the brain helps you become alert very quickly?

Mnemonic: a feather tickling you on the foot while you sleep

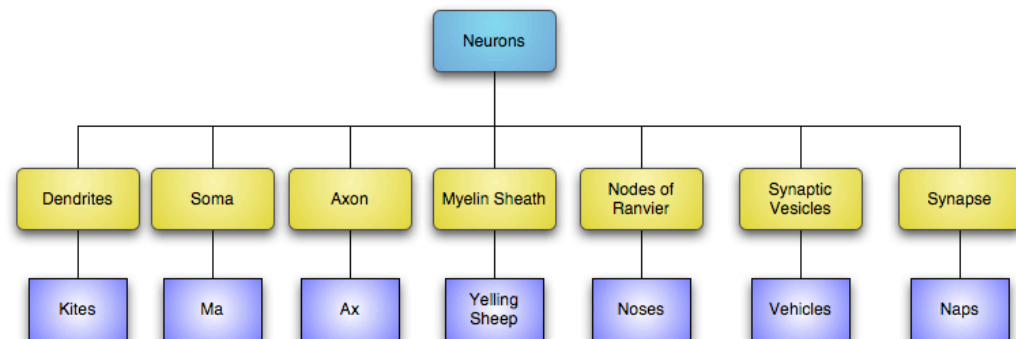
A: the reticular formation



Q: What part of the brain maintains the autonomic activity of your heart and lung?

Mnemonic: medals in a bloody heart and lungs

A: the medulla



Q: What are seven main parts of the neuron?

Mnemonic: Damn! Skinner Ate Mice? Not Very Smart.

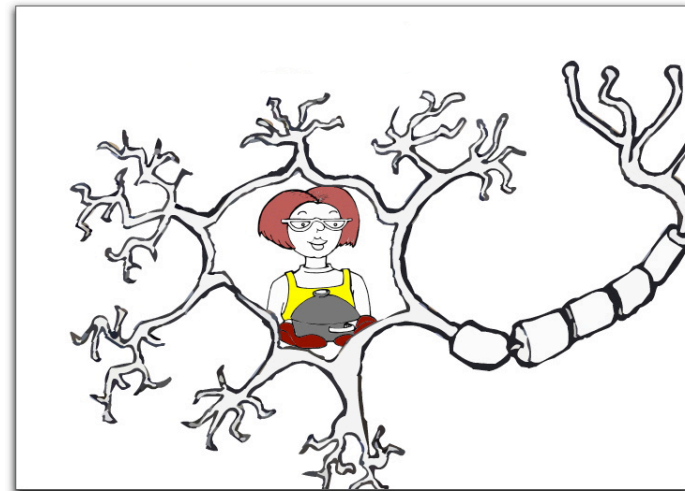
A: Dendrites, Soma, Axon, Myelin Sheath, Nodes of Ranvier, Synaptic Vesicles, and the Synapse



Q: What part of the neuron receives signals from other neurons and from muscles?

Mnemonic: kites

A: the dendrites



Q: What is the cell body of the neuron called?

Mnemonic: somebody's ma

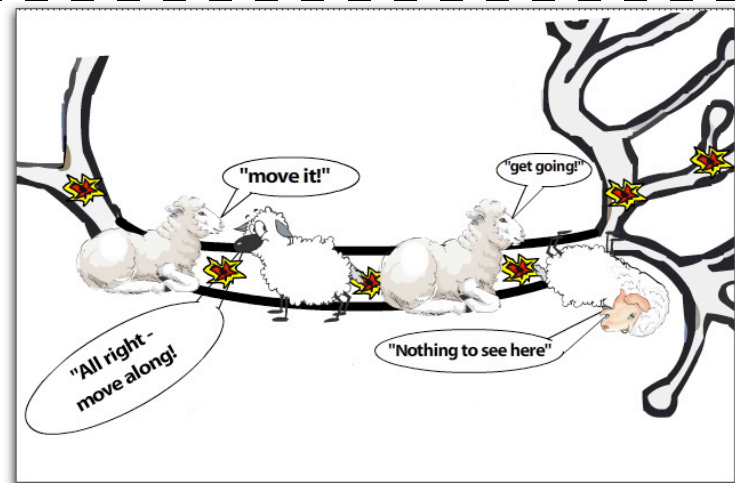
A: the soma



Q: What is the part of the neuron that extends out from the soma and carries signals to the synapse?

Mnemonic: "an ax in your ma"

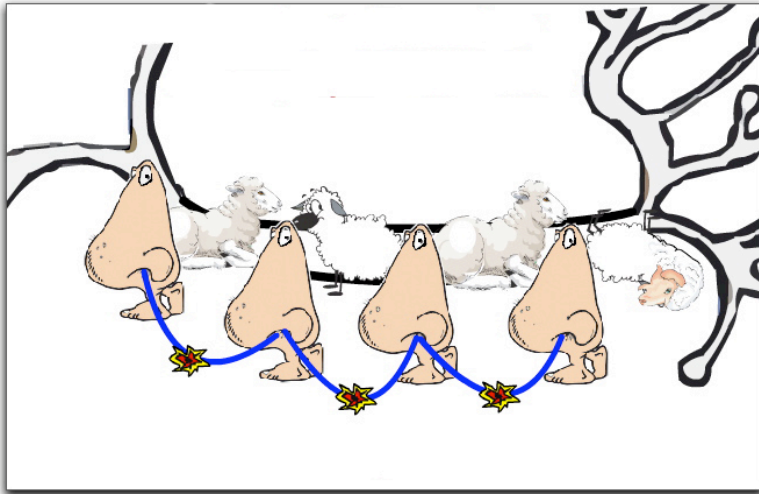
A: the axon



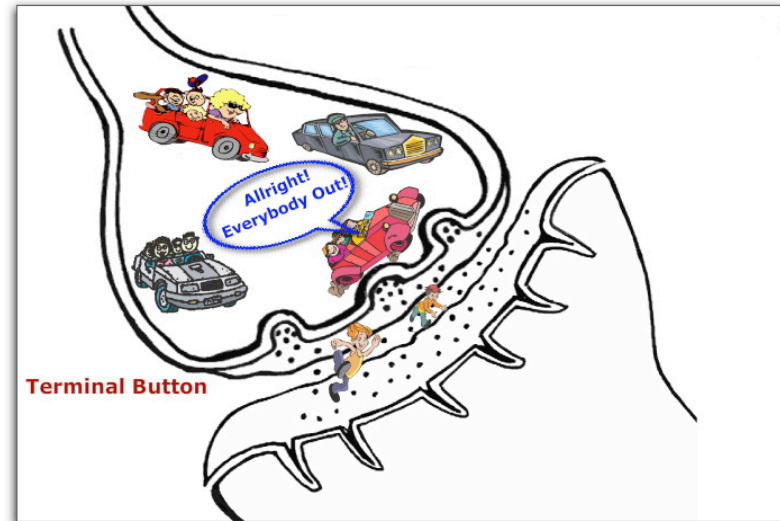
Q: What covers the axon, protecting it and helping move the signal along the axon?

Mnemonic: "my yelling sheep"

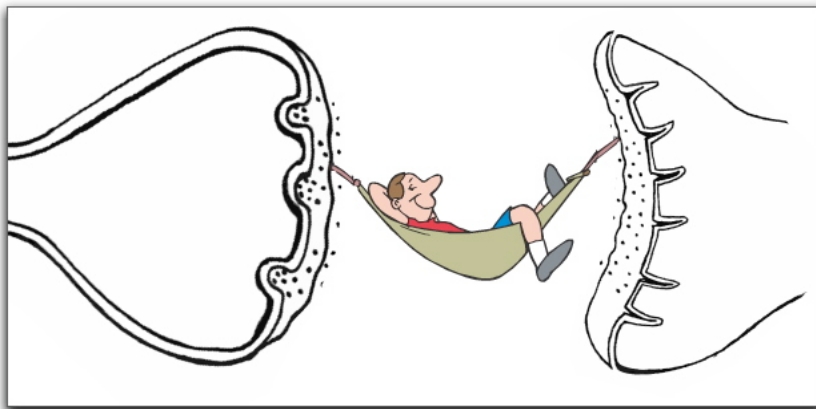
A: myelin sheep



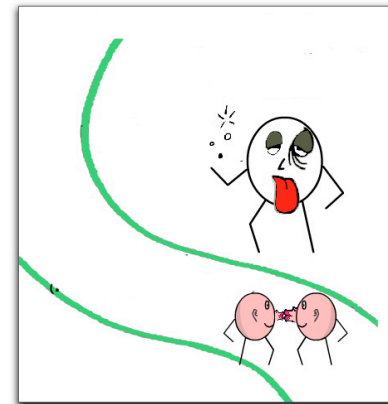
Q: what are the spaces between the myelin sheath called (hint: the signal jumps from one to the next)?
 Mnemonic: "noses of ranvier"
 Mnemonic: Nodes of Ranvier



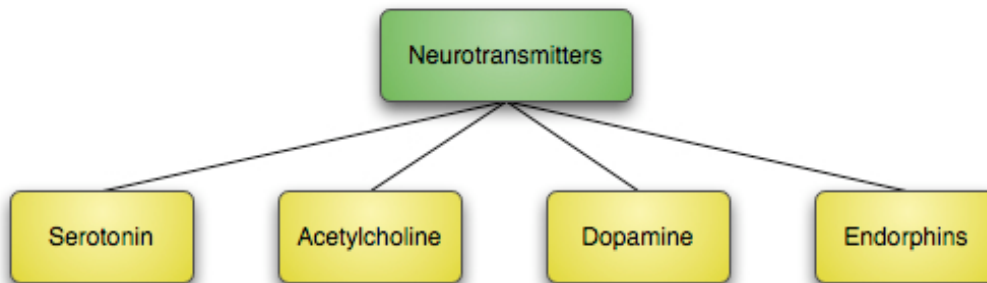
Q: at the end of the neuron is the terminal button. What are the sacs called inside the terminal button which hold neurotransmitters?
 Mnemonic: synaptic vehicles
 A: synaptic vesicles



Q: What do you call the space between two neurons (or between a neuron and a muscle)?
 Mnemonic: naps
 A: the synapse



Q: During the neuron's resting potential the ions outside the neuron are ____ and the ions inside the neuron are ____ charged.
 Mnemonic: "passed out" outside the neuron, "neckin'" inside the neuron
 A: positive, negative



Q: Name three neurotransmitters (bonus points if you can name four)

Mnemonic: SAD and DASE

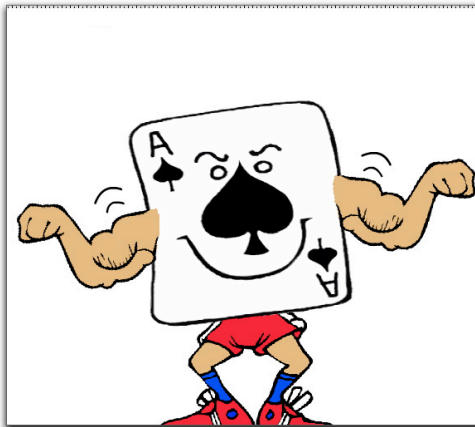
A: Serotonin, Acetylcholine, Dopamine and Endorphins



Q: Which neurotransmitter is involved with depression?

Mnemonic: "Sir Rotten"

A: Serotonin



Q: Which neurotransmitter is involved when you contract your muscles?

Mnemonic: the ace of spades

A: acetylcholine



Q: When dopamine levels are low, what disorder can result?

Mnemonic: small dopey the dwarf trying to park his car

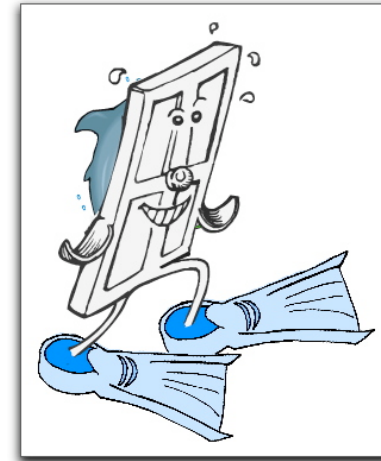
A: Parkinson's



Q: When dopamine levels are high what disorder can result?

Mnemonic: tall dopy skiing down a hill

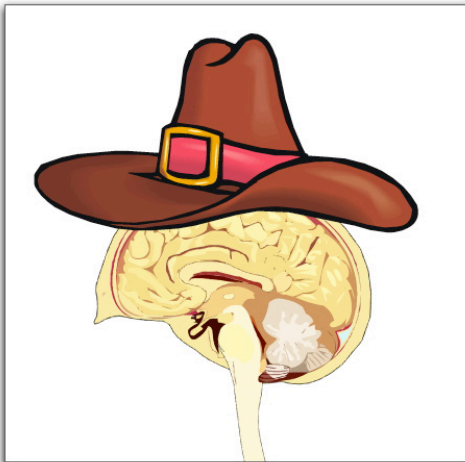
A: Schizophrenia (i.e., “ski” – zophrenia)



Q: What neurotransmitter is involved in the so-called “runner’s high” (responsible for blocking pain)?

Mnemonic: a door with fins running

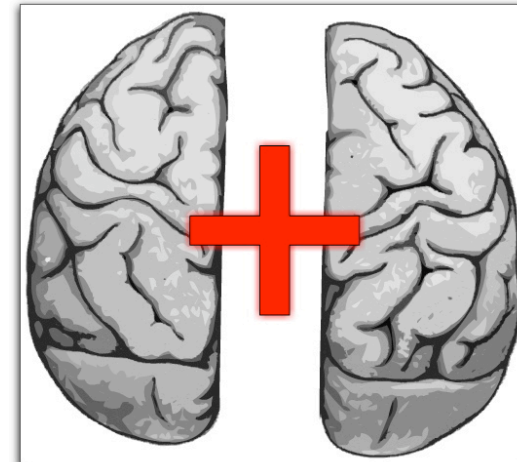
A: Endorphins



Q: What is the outer layer of the brain called?

Mnemonic: a Texas hat on top of a brain

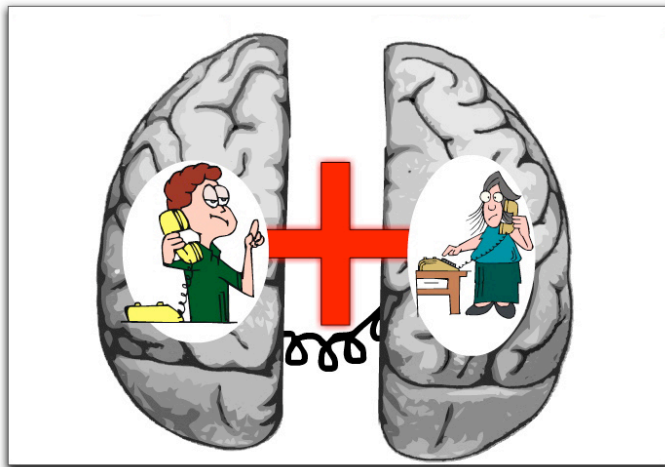
A: the cortex



Q: What is the part of the brain called that connects the right and left hemisphere?

Mnemonic: a plus sign between the two hemispheres

A: the corpus callosum



Q: What does the corpus callosum do?

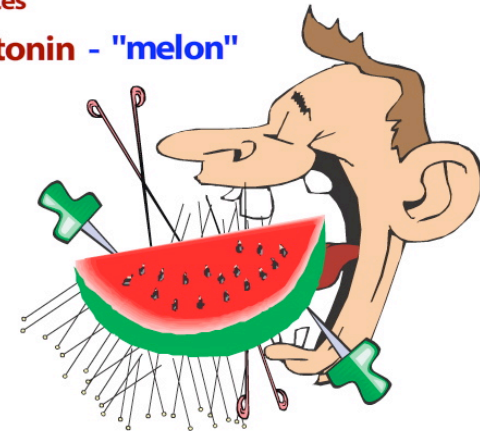
Mnemonic: a brain with a person in each hemisphere who are calling each other

A: help the two hemispheres communicate

Pineal - "pins and needles"

secretes

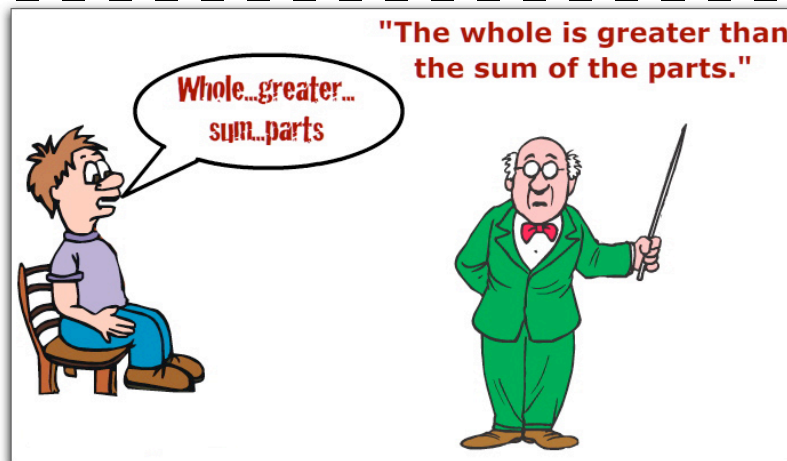
Melatonin - "melon"



Q: Which brain part is responsible for releasing melatonin?

Mnemonic: pins and needles sticking in a melon

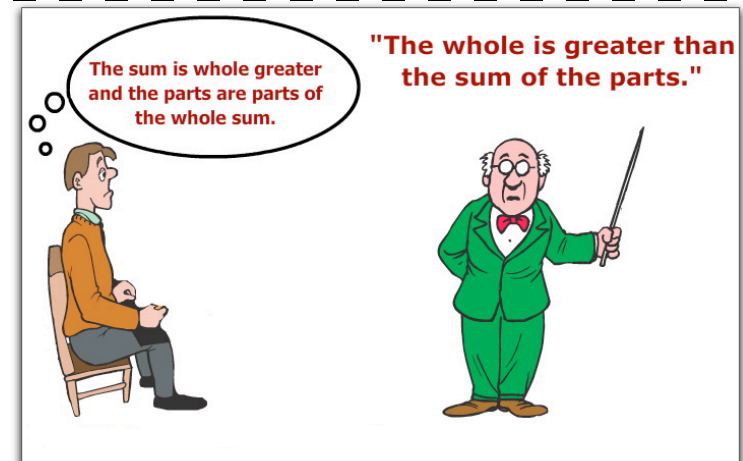
A: the pineal gland



Q: Which part of the brain is responsible for your ability to speak clearly?

Mnemonic: "____ is broken"

A: Broca's area



Q: Which part of the brain is responsible for your ability to comprehend what someone says to you?

Mnemonic: "____'s comprehension is crappy"

A: Wernicke

A Final Word

I hope you've found these crazy mnemonic images helpful, I really do. I know how hard it is to remember these terms.

Sharing: I know college students are strapped for cash. That's why I sell this document at a very reasonable price. If your friends ask for a copy of this document, please send them to my site to purchase it there: www.thepsychfiles.com. Financial support like this makes it possible for me to put in the many hundreds of hours it takes to create these mnemonics and will make it possible for me to create mnemonics for additional topics in psychology.

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One final note: I had an inspirational teacher when I was young who told me that when you go in to take a test, go in with a fighting attitude; like a boxer entering the ring: "Where's that test? Let me at it". I hope these mnemonics help to give you that attitude.

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